



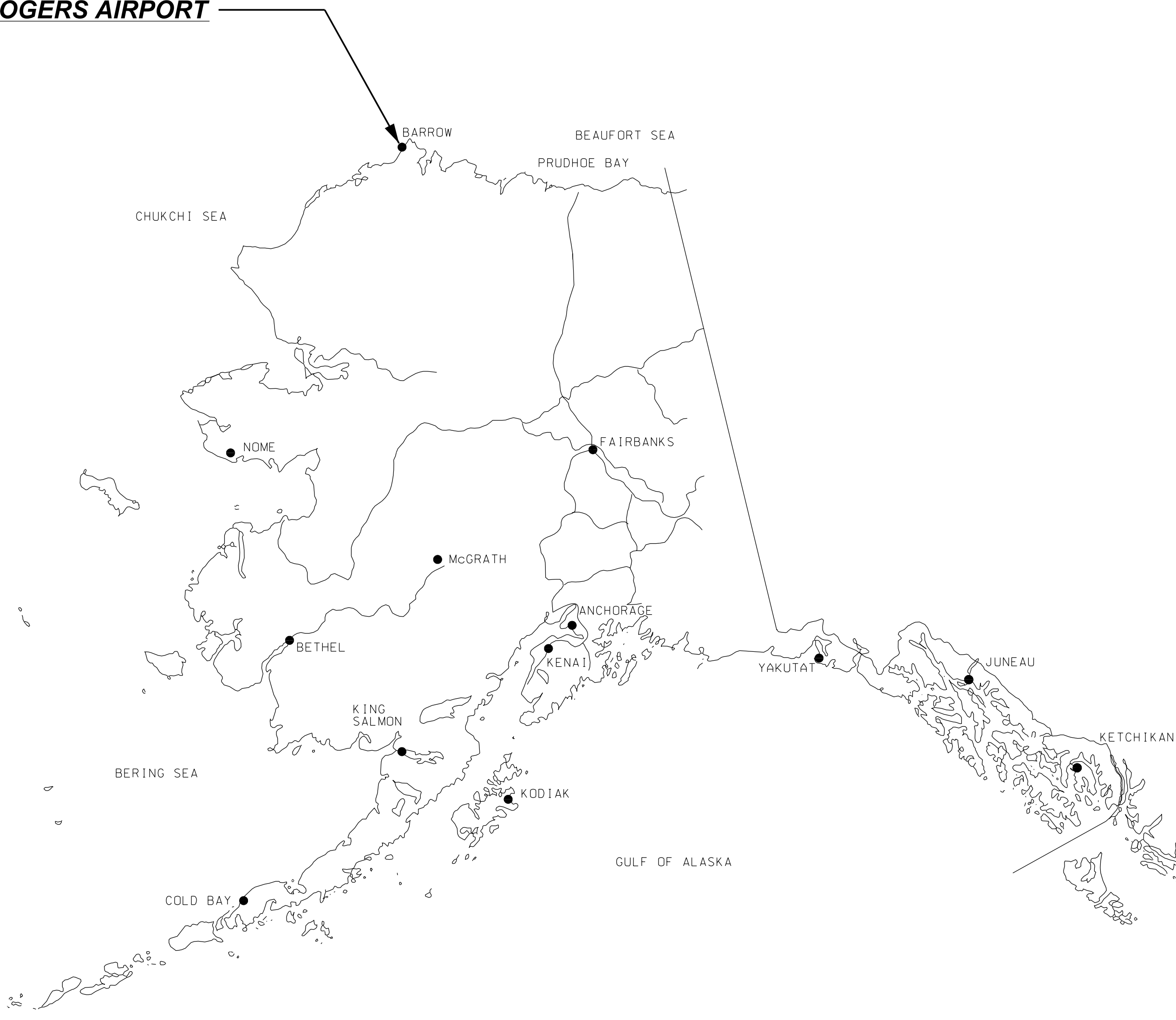
ESTABLISH RWY 7 ROLLOUT RVR PHASE I BARROW, ALASKA FOR CONSTRUCTION

PHASE I SCOPE

INCLUDES, BUT IS NOT LIMITED TO, CONSTRUCTION OF RVR PAD, RVR RACK FOUNDATION, DISTRIBUTION RACK, DISTRIBUTION RACK PAD AND FOUNDATION, ALL TRENCHES AND CONDUIT, PULLING OF WIRE (AS INDICATED), AND NEW POWER SERVICE.

THE RVR SENSORS AND POLE, RVR RACK, AND OTHER RVR EQUIPMENT WILL BE INSTALLED AS PART OF PHASE II.

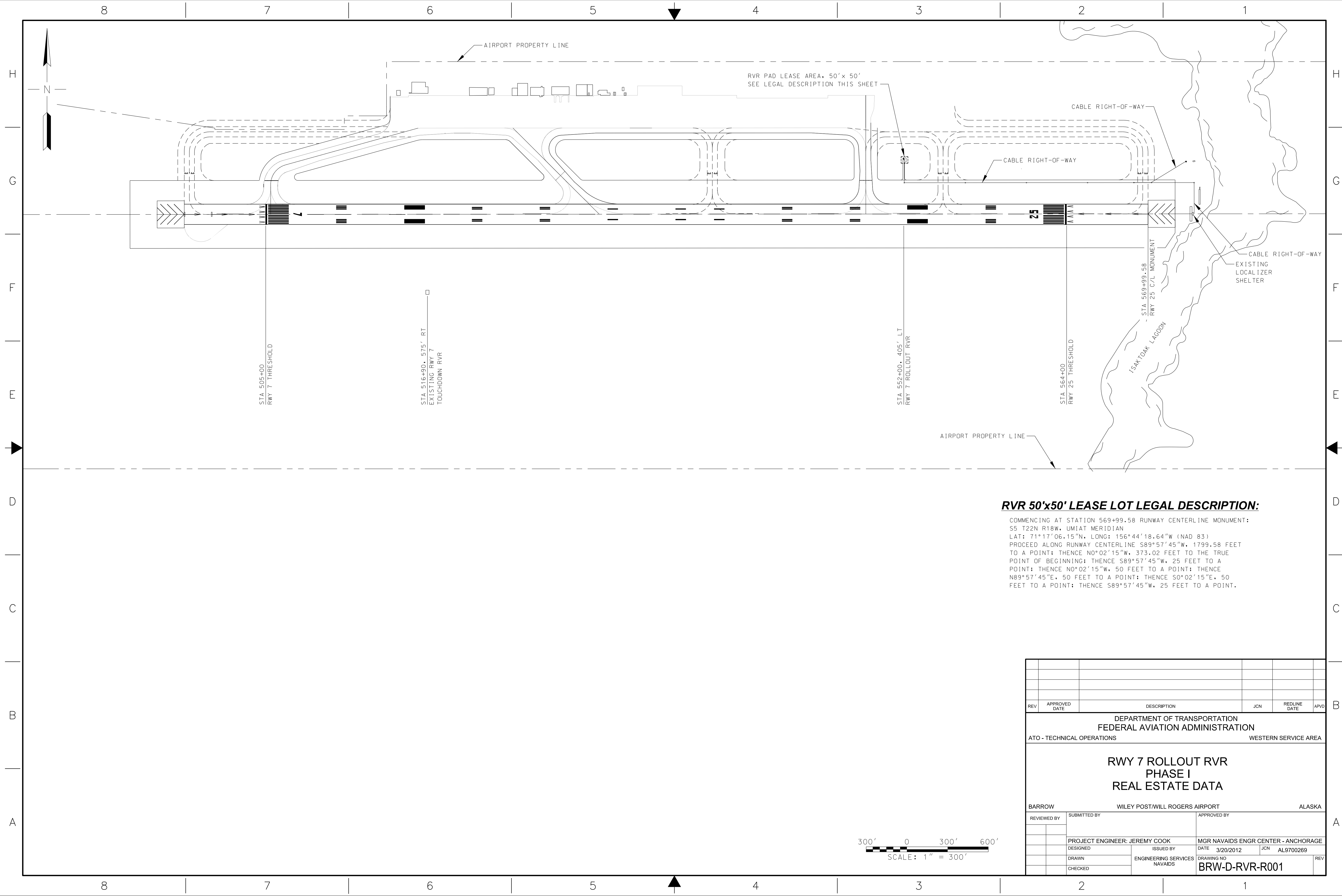
WILEY POST/WILL ROGERS AIRPORT



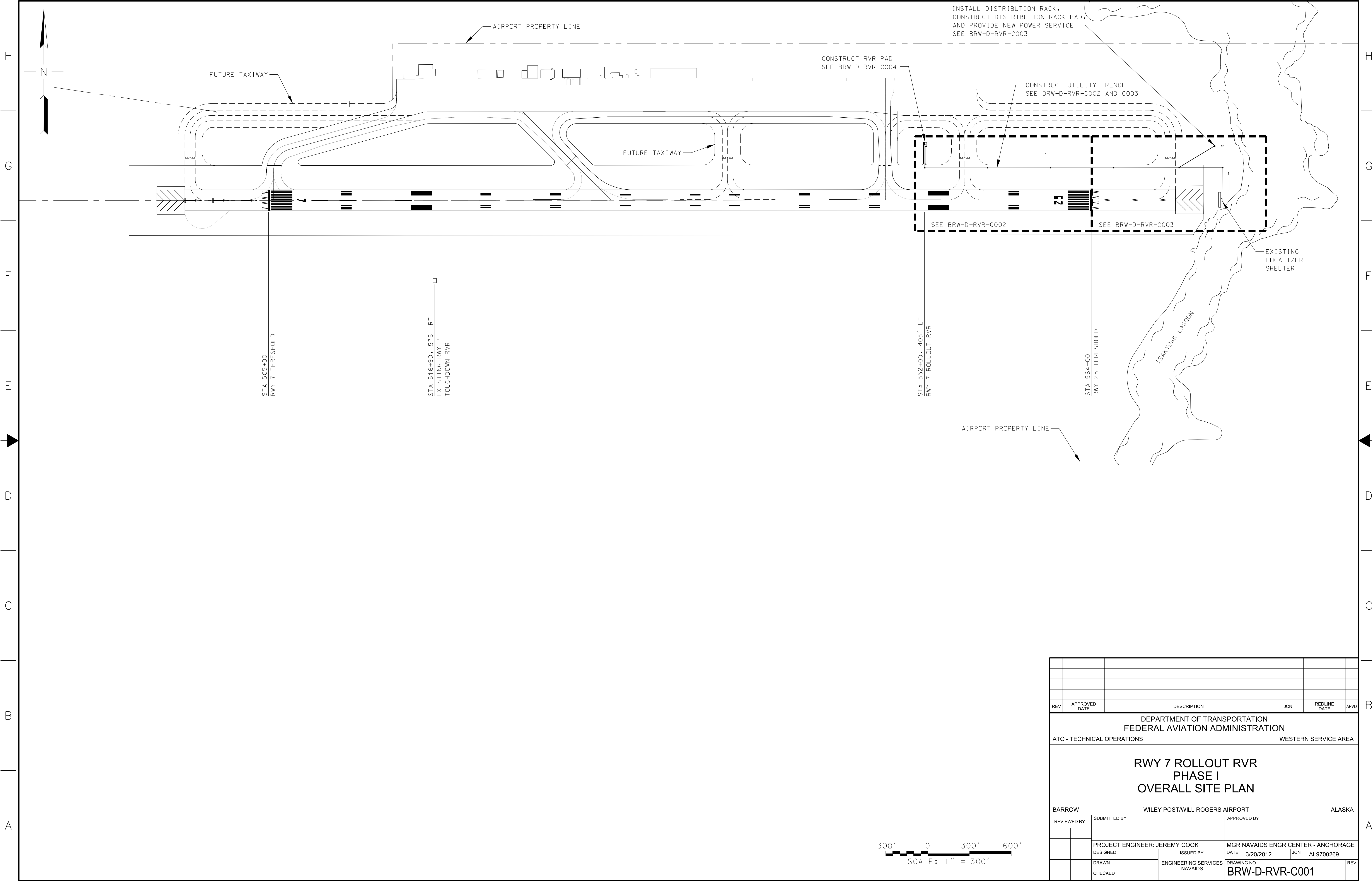
PROJECT DRAWINGS:

- G001 COVER SHEET
- R001 REAL ESTATE DATA
- C001 OVERALL SITE PLAN
- C002 UTILITY TRENCH PLAN
- C003 UTILITY TRENCH PLAN
- C004 ACCESS ROAD AND RVR PAD
- C005 RVR RACK FOUNDATION
- C006 DISTRIBUTION RACK PAD AND FOUNDATION
- E001 DISTRIBUTION RACK
- E002 ONE-LINE DIAGRAM

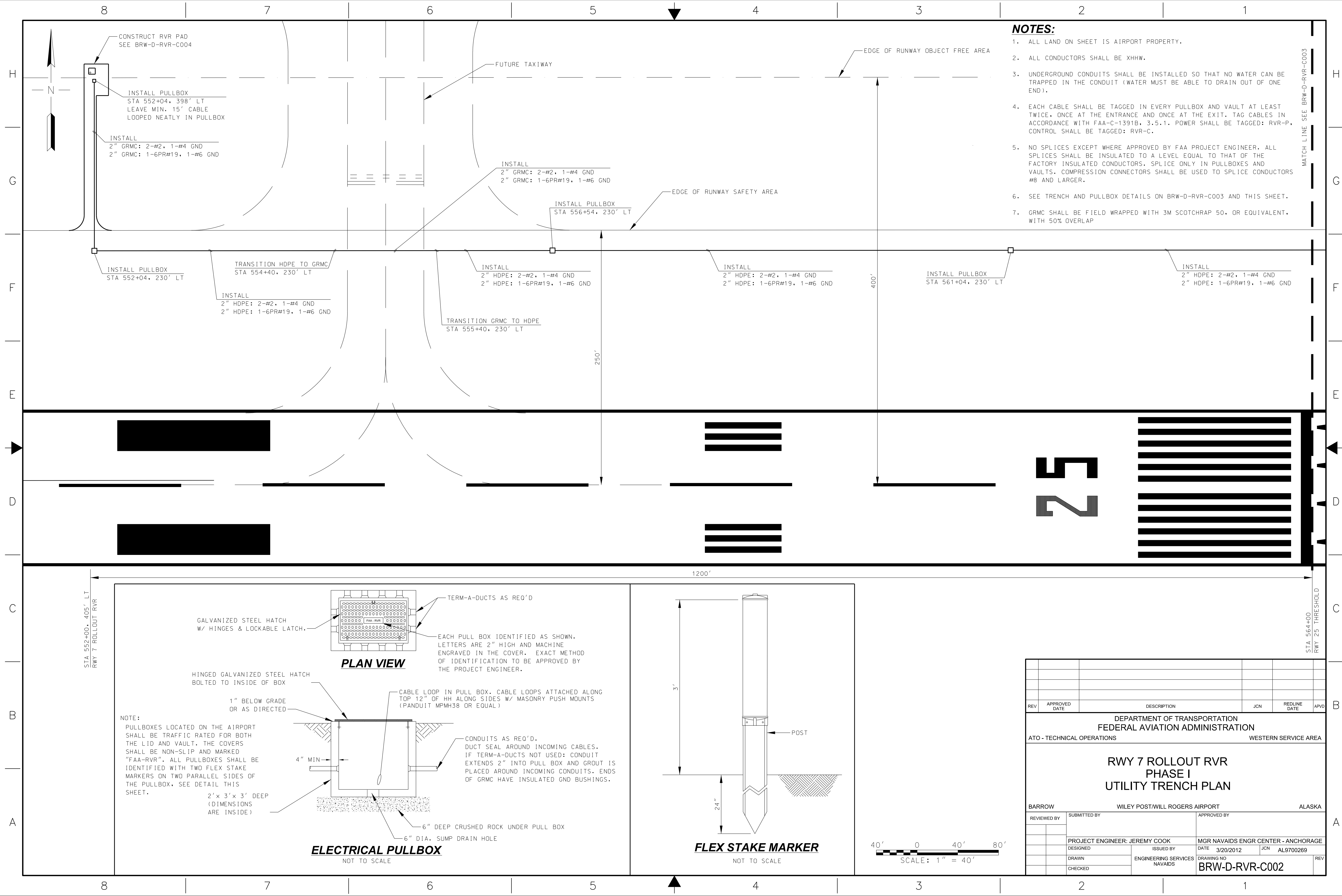
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DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION					
ATO - TECHNICAL OPERATIONS			WESTERN SERVICE AREA		
RWY 7 ROLLOUT RVR PHASE I COVER SHEET					
BARROW		WILEY POST/WILL ROGERS AIRPORT		ALASKA	
REVIEWED BY	SUBMITTED BY	APPROVED BY			
		PROJECT ENGINEER: JEREMY COOK		MGR NAVAIDS ENGR CENTER - ANCHORAGE	
		DESIGNED	ISSUED BY	DATE 3/20/2012	JCN AL9700269
		DRAWN	ENGINEERING SERVICES NAVAIDS		DRAWING NO
		CHECKED			BRW-D-RVR-G001
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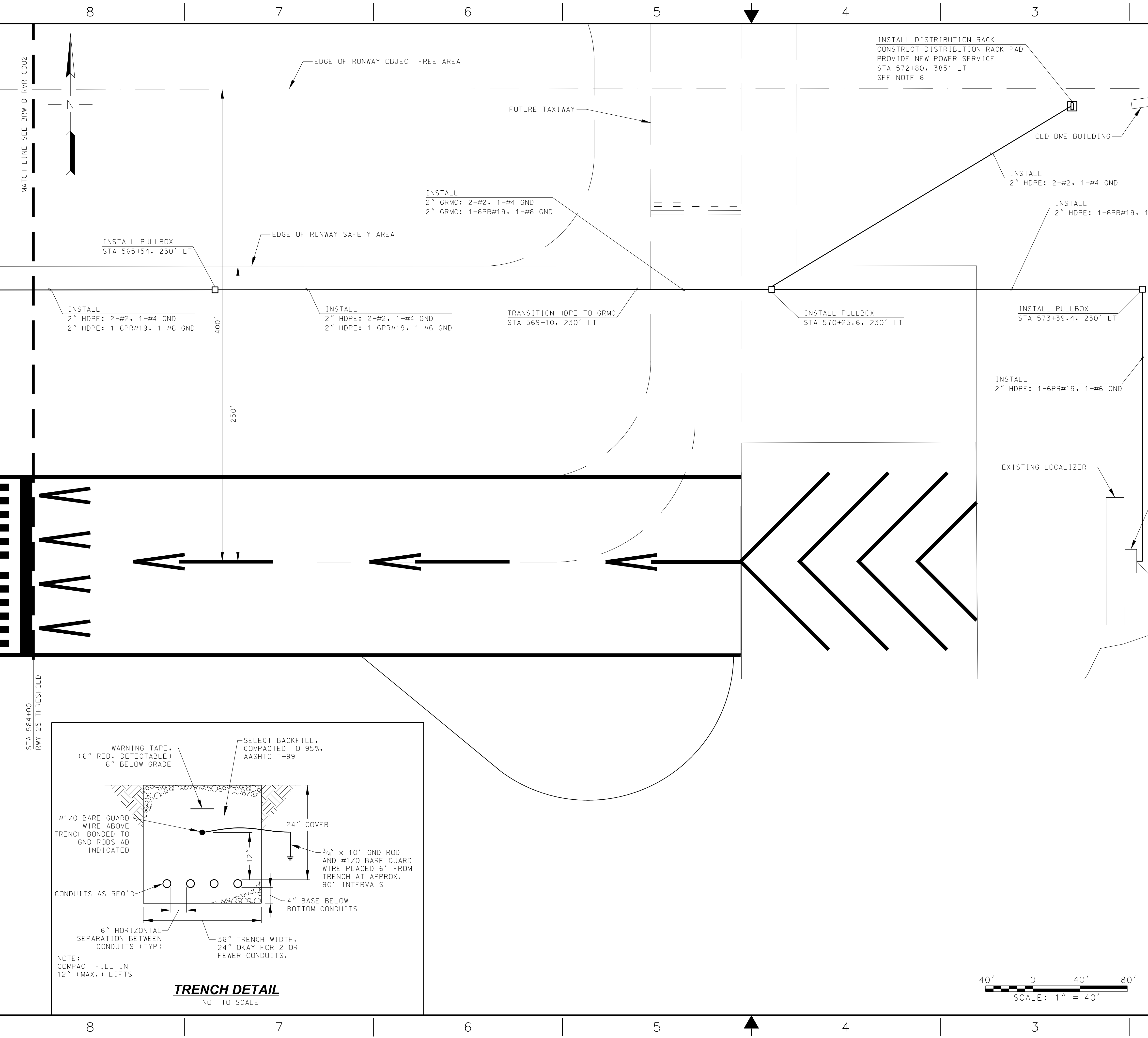
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DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION					
ATO - TECHNICAL OPERATIONS			WESTERN SERVICE AREA		
RWY 7 ROLLOUT RVR PHASE I OVERALL SITE PLAN					
BARROW		WILEY POST/WILL ROGERS AIRPORT		ALASKA	
REVIEWED BY	SUBMITTED BY		APPROVED BY		
	PROJECT ENGINEER: JEREMY COOK		MGR NAVAIDS ENGR CENTER - ANCHORAGE		
	DESIGNED	ISSUED BY	DATE	JCN	AL9700269
	DRAWN	ENGINEERING SERVICES NAVAIDS	DRAWING NO		REV
	CHECKED		BRW-D-RVR-C001		



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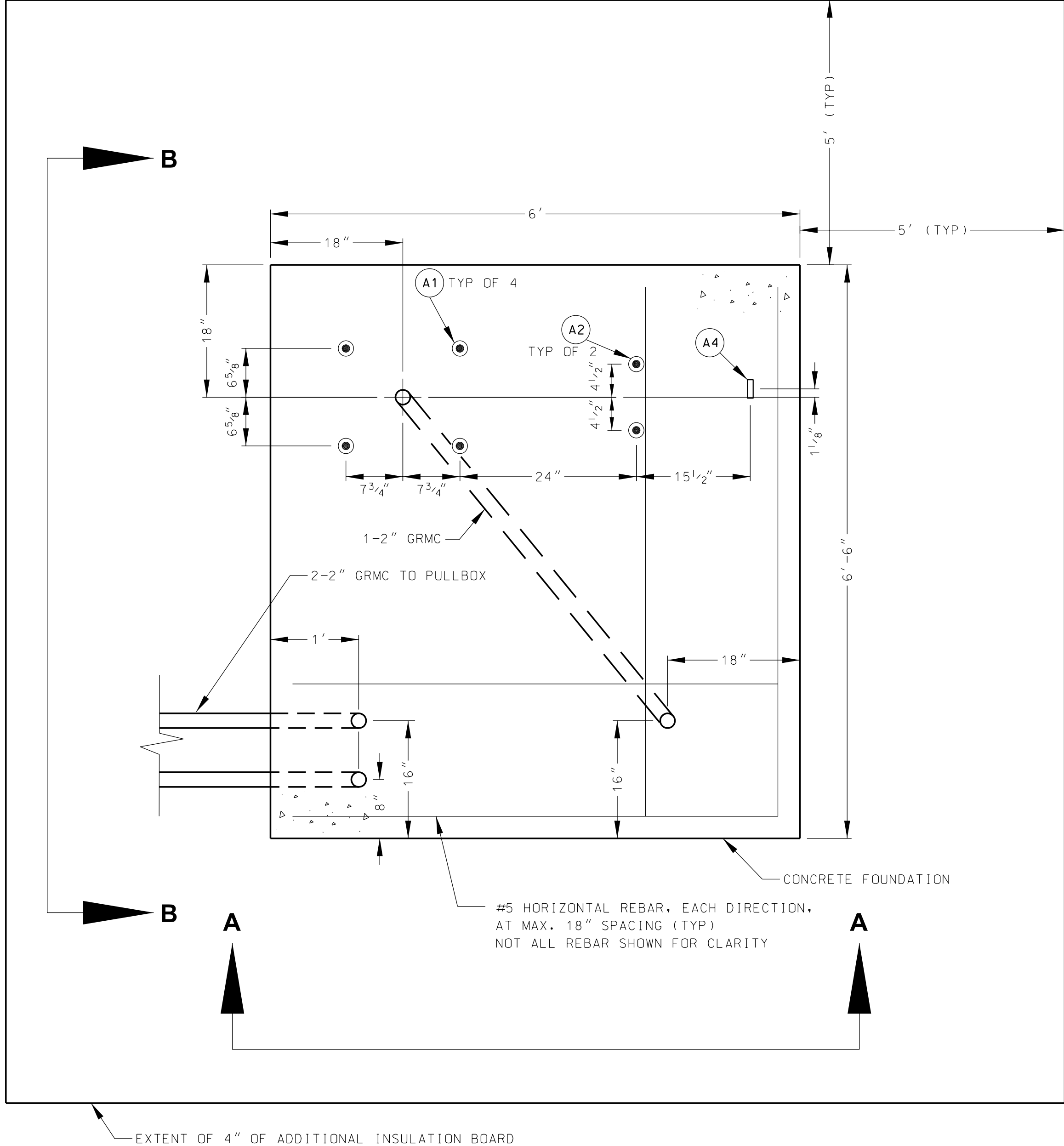


- NOTES:**
- ALL LAND ON SHEET IS AIRPORT PROPERTY.
 - ALL CONDUCTORS SHALL BE XHHW.
 - UNDERGROUND CONDUITS SHALL BE INSTALLED SO THAT NO WATER CAN BE TRAPPED IN THE CONDUIT (WATER MUST BE ABLE TO DRAIN OUT OF ONE END).
 - EACH CABLE SHALL BE TAGGED IN EVERY PULLBOX AND VAULT AT LEAST TWICE, ONCE AT THE ENTRANCE AND ONCE AT THE EXIT. TAG CABLES IN ACCORDANCE WITH FAA-C-1391B, 3.5.1. POWER SHALL BE TAGGED: RVR-P, CONTROL SHALL BE TAGGED: RVR-C.
 - NO SPLICES EXCEPT WHERE APPROVED BY FAA PROJECT ENGINEER. ALL SPLICES SHALL BE INSULATED TO A LEVEL EQUAL TO THAT OF THE FACTORY INSULATED CONDUCTORS. SPLICE ONLY IN PULLBOXES AND VAULTS. COMPRESSION CONNECTORS SHALL BE USED TO SPLICE CONDUCTORS #8 AND LARGER.
 - INSTALL DISTRIBUTION RACK, SEE BRW-D-RVR-E001, CONSTRUCT DISTRIBUTION RACK PAD, SEE BRW-D-RVR-C006, AND COORDINATE WITH BUECI (907-852-6166) TO PROVIDE NEW 7.5 KVA POWER SERVICE.
 - SEE TRENCH AND PULLBOX DETAILS ON BRW-D-RVR-C002 AND THIS SHEET.
 - GRMC SHALL BE FIELD WRAPPED WITH 3M SCOTCHRAP 50, OR EQUIVALENT, WITH 50% OVERLAP

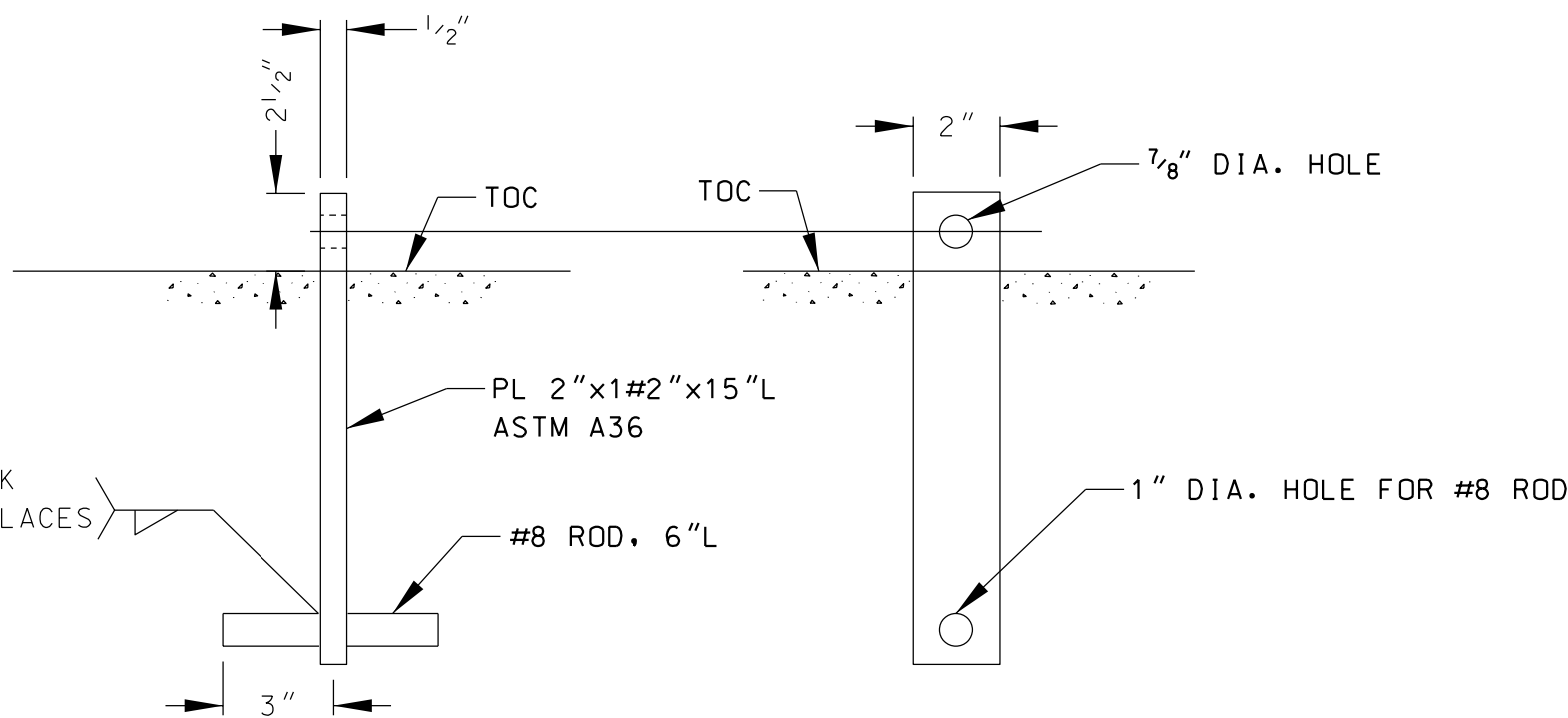
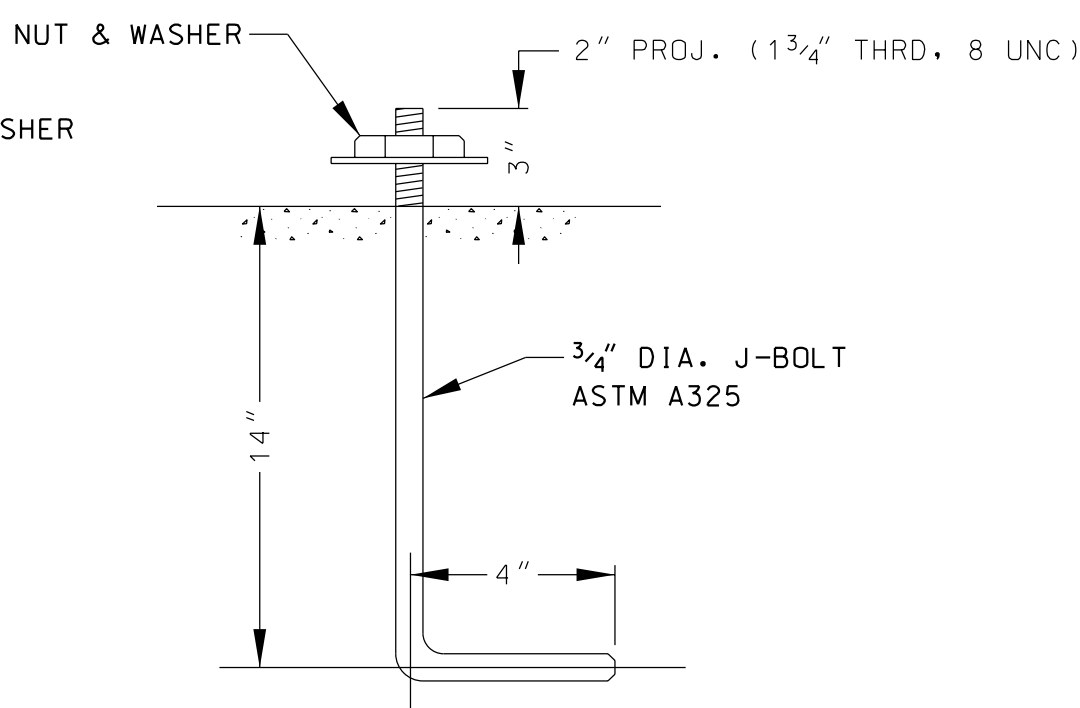
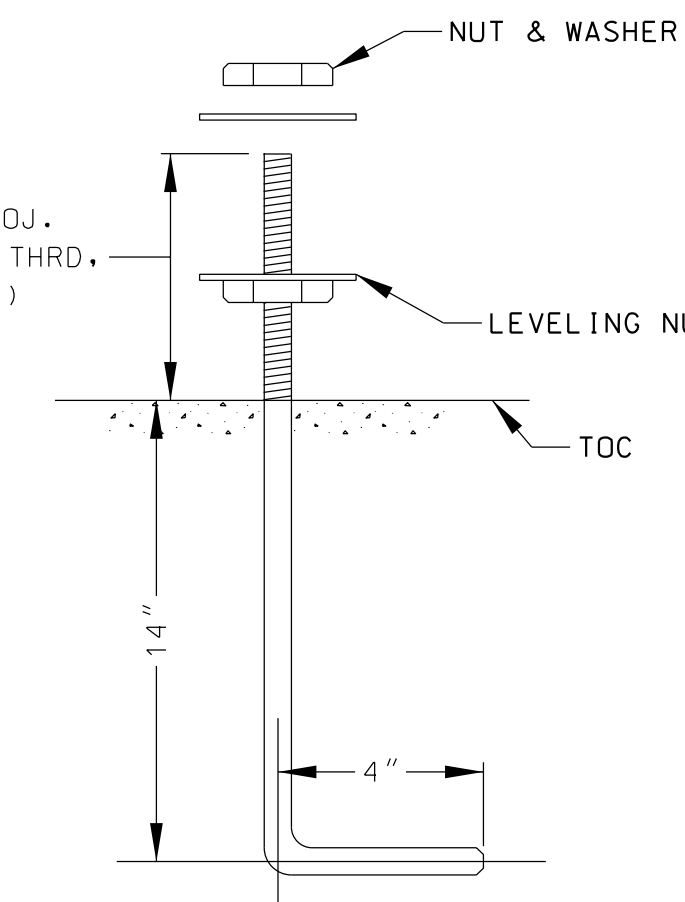
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DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION					
ATO - TECHNICAL OPERATIONS			WESTERN SERVICE AREA		
RWY 7 ROLLOUT RVR PHASE I UTILITY TRENCH PLAN					
BARROW		WILEY POST/WILL ROGERS AIRPORT		ALASKA	
REVIEWED BY	SUBMITTED BY		APPROVED BY		
PROJECT ENGINEER: JEREMY COOK			MGR NAVAIDS ENGR CENTER - ANCHORAGE		
DESIGNED		ISSUED BY	DATE	JCN	AL9700269
DRAWN		ENGINEERING SERVICES NAVAIDS	DRAWING NO		REV
CHECKED			BRW-D-RVR-C003		

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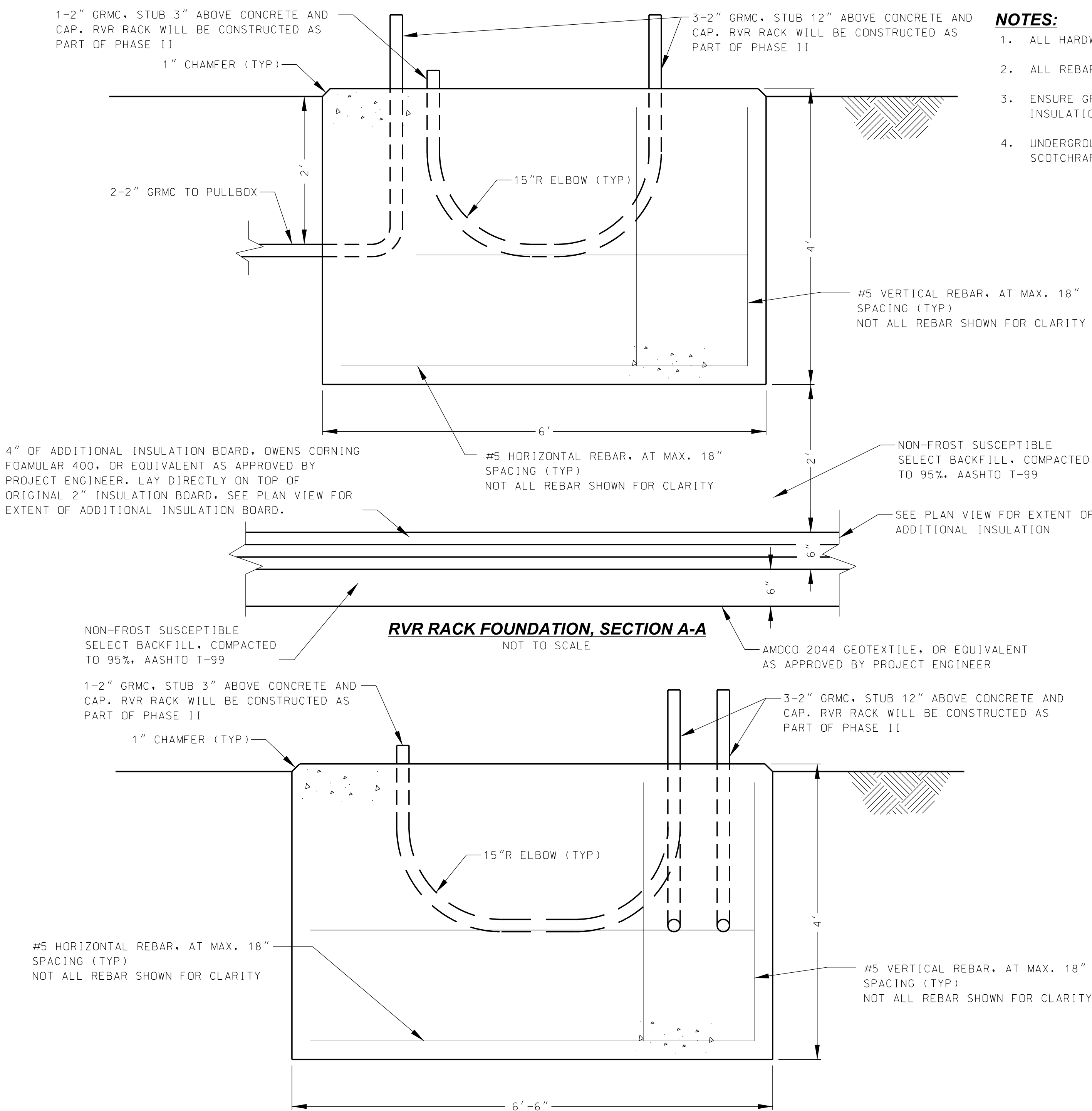
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RVR RACK FOUNDATION PLAN
NOT TO SCALE

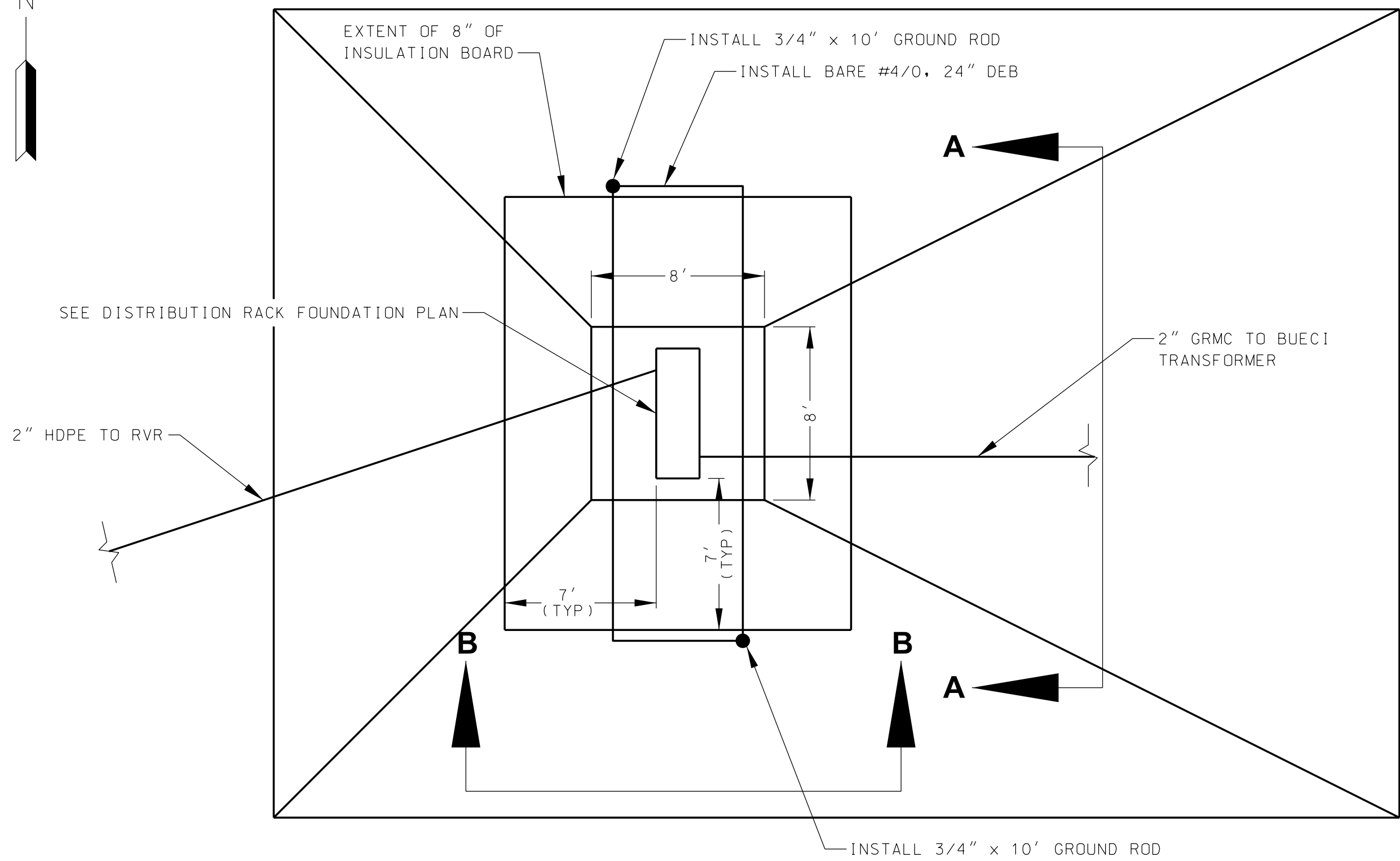
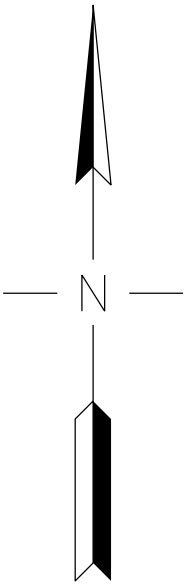


MG-20 POLE ANCHOR PLATE (A4)
NOT TO SCALE

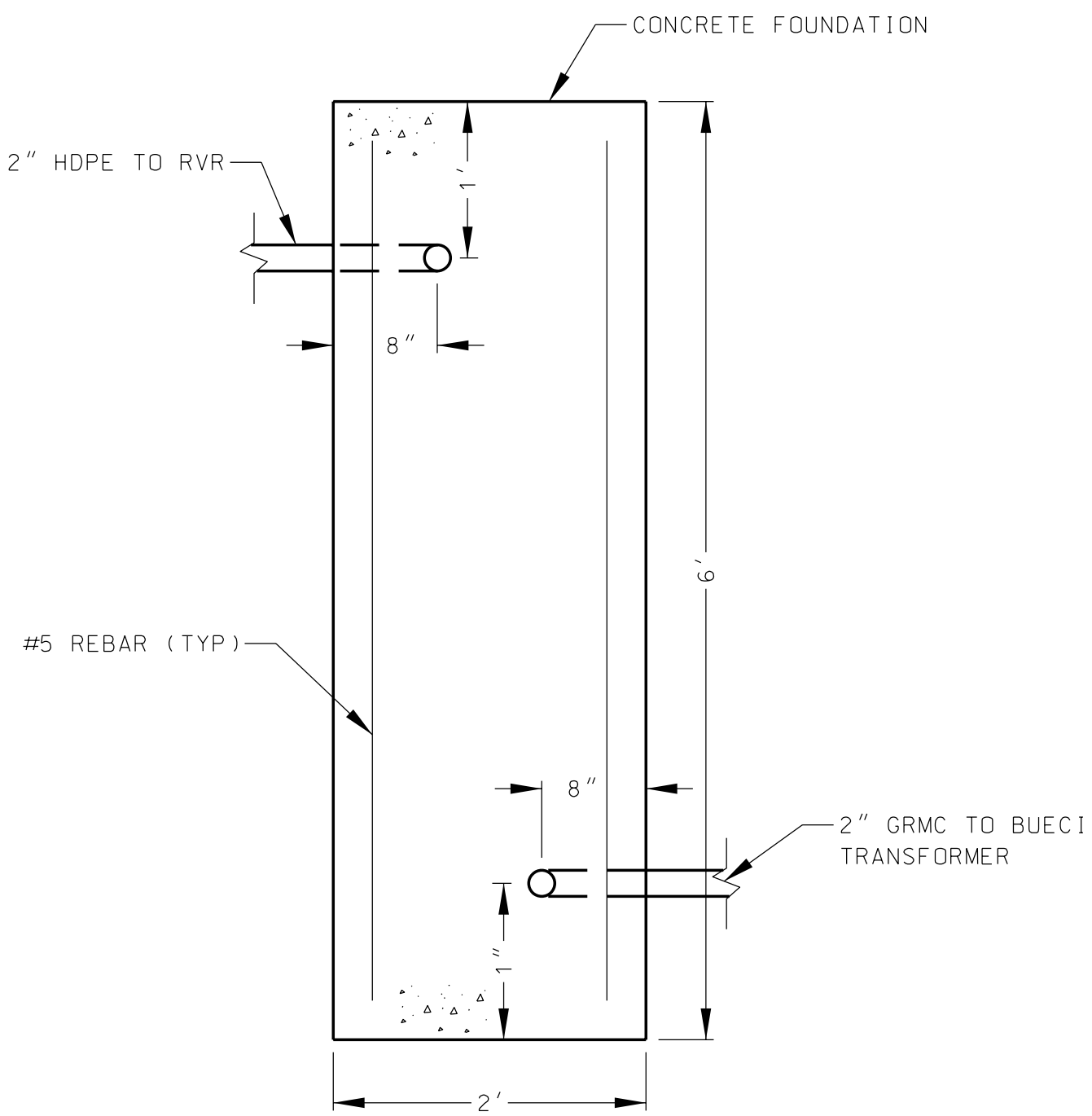
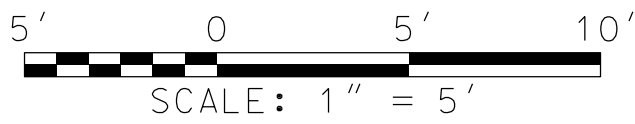


- NOTES:**
1. ALL HARDWARE SHALL BE HOT-DIP GALVANIZED.
 2. ALL REBAR SHALL HAVE 3 INCHES OF COVER.
 3. ENSURE GROUND RODS DO NOT PENETRATE ADDITIONAL INSULATION.
 4. UNDERGROUND GRMC SHALL BE FIELD WRAPPED WITH 3M SCOTCHRAP 50, OR EQUIVALENT, WITH 50% OVERLAP.

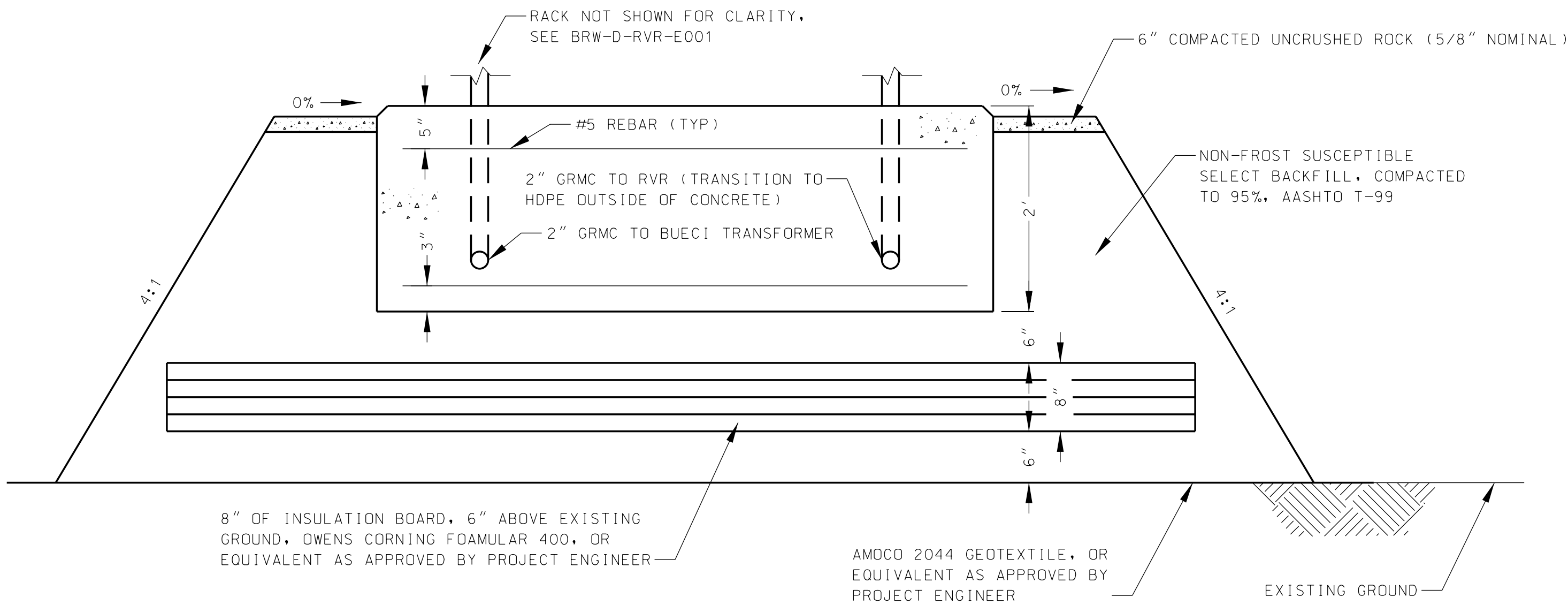
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DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION					
ATO - TECHNICAL OPERATIONS			WESTERN SERVICE AREA		
RWY 7 ROLLOUT RVR PHASE I RVR RACK FOUNDATION					
BARROW		WILEY POST/WILL ROGERS AIRPORT		ALASKA	
REVIEWED BY		SUBMITTED BY		APPROVED BY	
		PROJECT ENGINEER: JEREMY COOK		MGR NAVAIDS ENGR CENTER - ANCHORAGE	
		DESIGNED	ISSUED BY	DATE 3/20/2012	JCN AL9700269
		DRAWN	ENGINEERING SERVICES NAVAIDS		DRAWING NO
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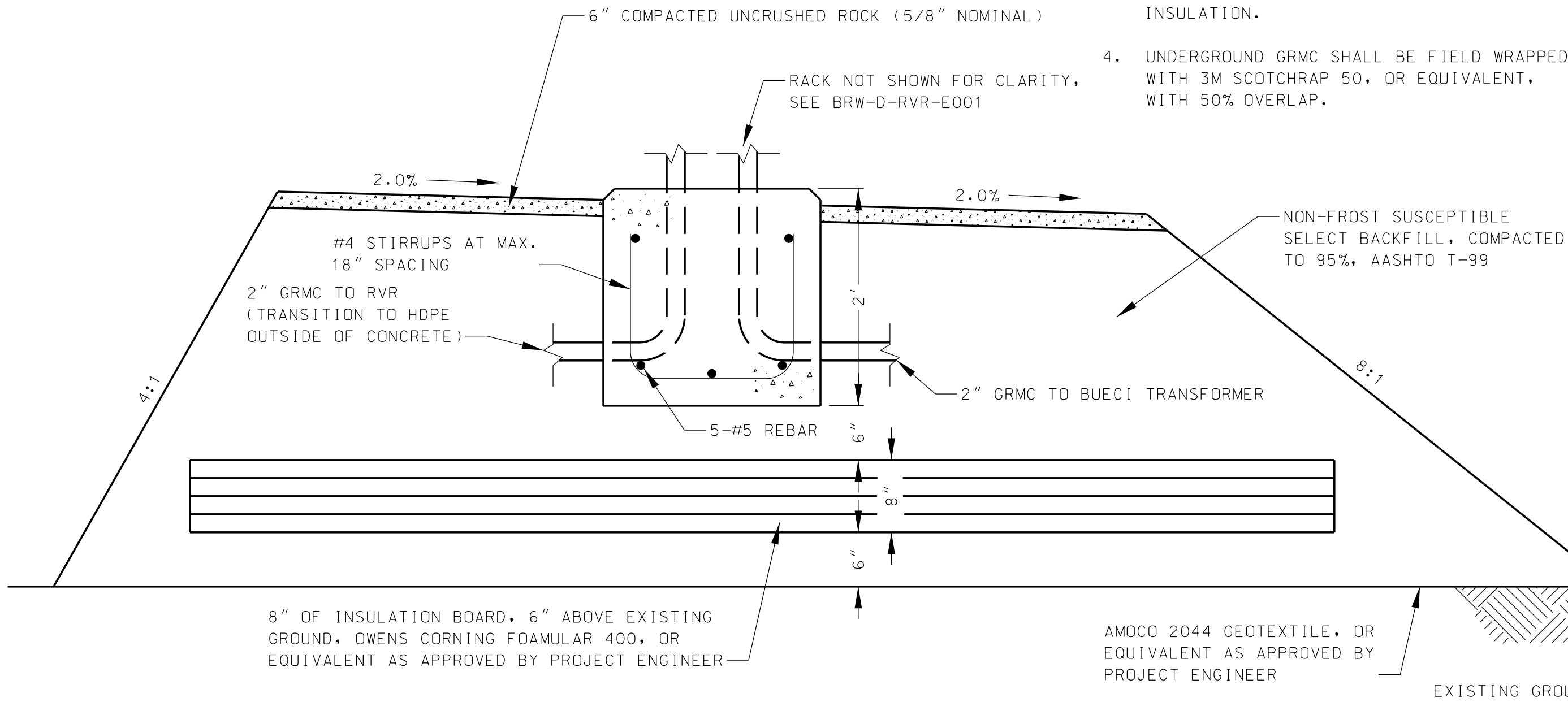
DISTRIBUTION RACK PAD PLAN
SCALE: 1" = 5'



DISTRIBUTION RACK FOUNDATION PLAN
NOT TO SCALE



DISTRIBUTION RACK FOUNDATION, SECTION A-A
NOT TO SCALE



DISTRIBUTION RACK FOUNDATION, SECTION B-B
NOT TO SCALE

- NOTES:**
1. ALL HARDWARE SHALL BE HOT-DIP GALVANIZED.
 2. ALL REBAR SHALL HAVE 3 INCHES OF COVER.
 3. ENSURE GROUND RODS DO NOT PENETRATE INSULATION.
 4. UNDERGROUND GRMC SHALL BE FIELD WRAPPED WITH 3M SCOTCHRAP 50, OR EQUIVALENT, WITH 50% OVERLAP.

REV	APPROVED DATE	DESCRIPTION				JCN	REDLINE DATE		APVD
DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION									
ATO - TECHNICAL OPERATIONS						WESTERN SERVICE AREA			
RWY 7 ROLLOUT RVR PHASE I DISTRIBUTION RACK PAD AND FOUNDATION									
BARROW		WILEY POST/WILL ROGERS AIRPORT					ALASKA		
REVIEWED BY:		SUBMITTED BY				APPROVED BY			
		PROJECT ENGINEER: JEREMY COOK				MGR NAVAIDS ENGR CENTER - ANCHORAGE			
		DESIGNED	ISSUED BY			DATE	3/20/2012	JCN	AL9700269
		DRAWN	ENGINEERING SERVICES			DRAWING NO			REV
		CHECKED	NAVAIDS			BRW-D-RVR-C006			

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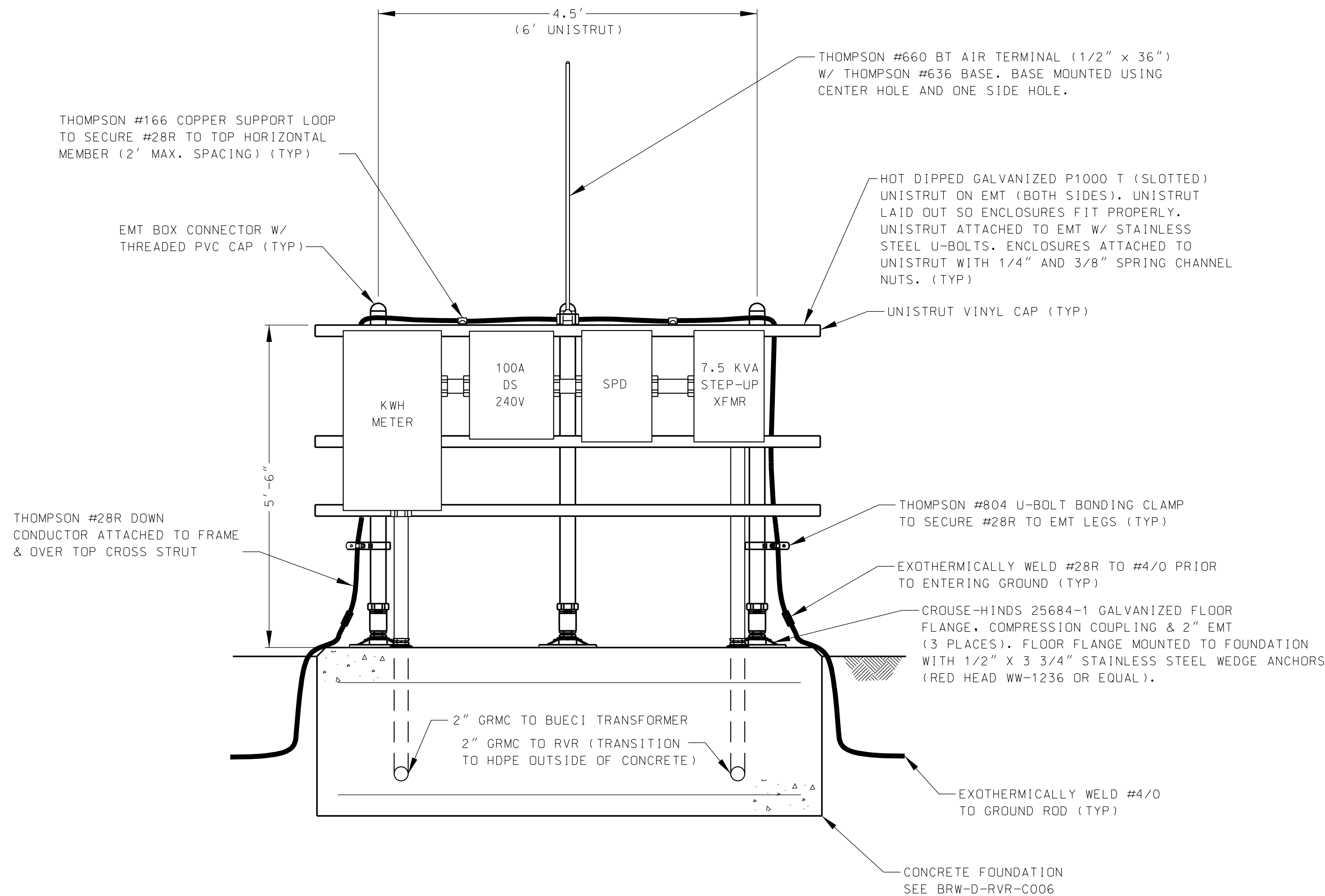
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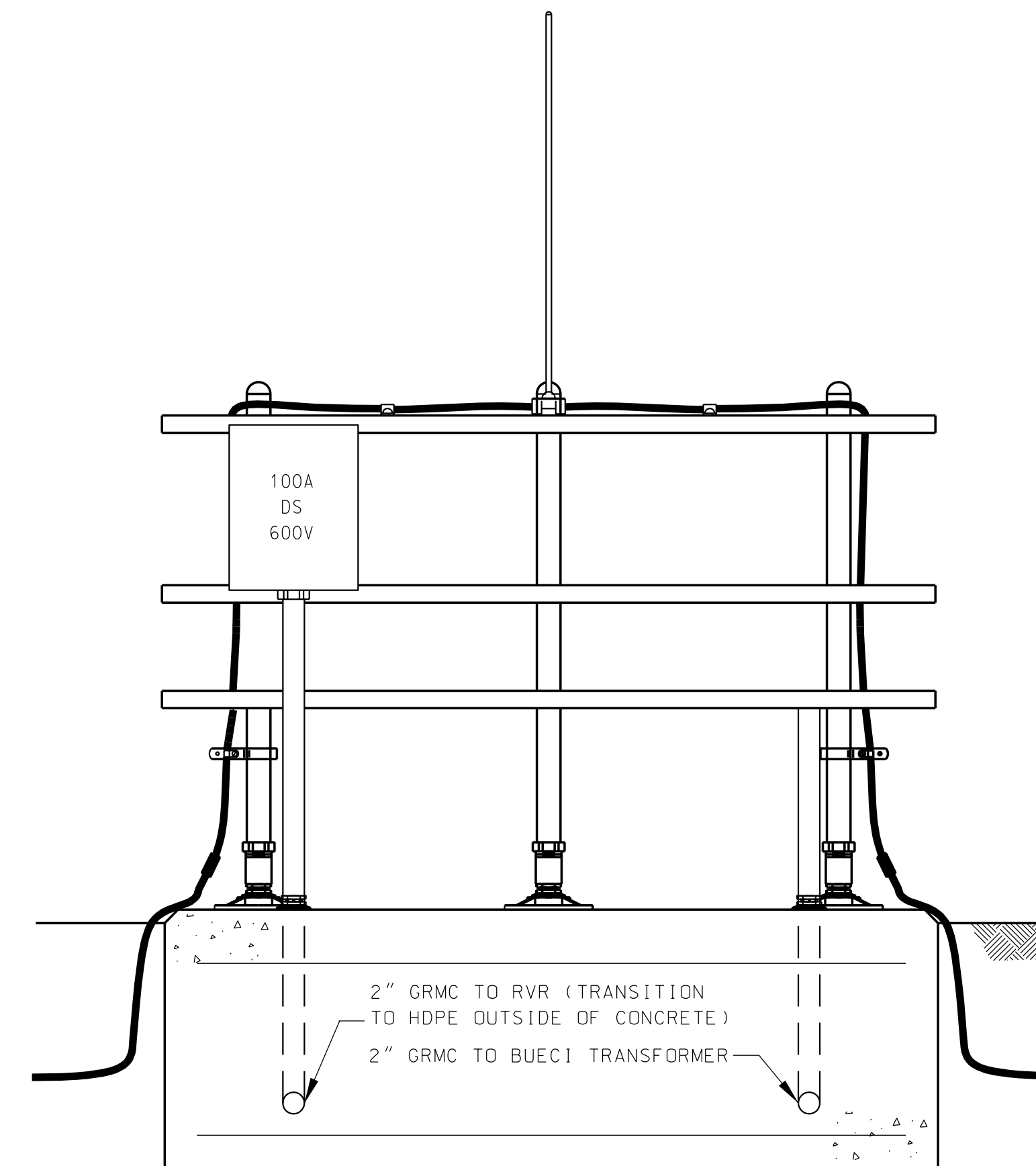
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NOTES:

1. ALL HARDWARE SHALL BE HOT-DIP GALVANIZED.
2. UNDERGROUND GRMC SHALL BE FIELD WRAPPED WITH 3M SCOTCHRAP 50, OR EQUIVALENT, WITH 50% OVERLAP
3. SEE BRW-D-RVR-E002 FOR ONE-LINE DIAGRAM.



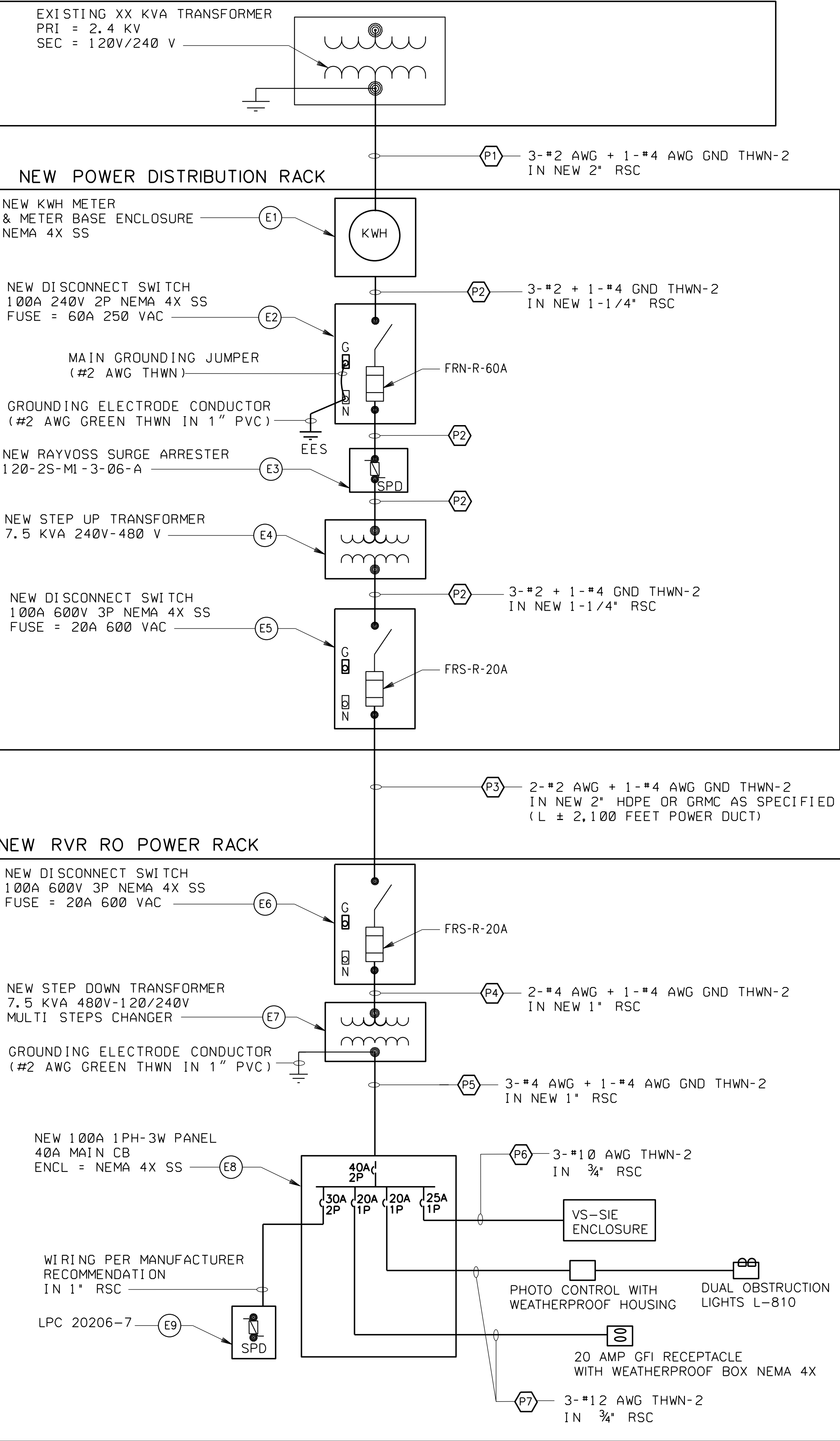
DISTRIBUTION RACK, SECTION A-A
NOT TO SCALE



DISTRIBUTION RACK, OPPOSITE SIDE
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REV	APPROVED DATE	DESCRIPTION			JCN	REDLINE DATE	APVD
DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION							
ATO - TECHNICAL OPERATIONS				WESTERN SERVICE AREA			
RWY 7 ROLLOUT RVR PHASE I DISTRIBUTION RACK							
BARROW		WILEY POST/WILL ROGERS AIRPORT				ALASKA	
REVIEWED BY		SUBMITTED BY			APPROVED BY		
		PROJECT ENGINEER: JEREMY COOK			MGR NAVAIDS ENGR CENTER - ANCHORAGE		
		DESIGNED	ISSUED BY		DATE	JCN	AL9700269
		DRAWN	ENGINEERING SERVICES NAVAIDS		DRAWING NO		REV
		CHECKED			BRW-D-RVR-E001		

EXISTING BUEC1 TRANSFORMER IN ENCLOSURE (NEAR OLD DME BLDG)



ONE-LINE DIAGRAM
SCALE: NTS

GENERAL NOTES:

- ALL ELECTRICAL INSTALLATION SHALL COMPLY WITH FAA-STD-1217f AND CURRENT NEC CODE.
- ALL GROUNDING AND BONDING INSTALLATION SHALL COMPLY WITH FAA-STD-19e.
- PROVIDE GROUNDING BUSHING TO BOND A CONDUIT TO AN ENCLOSURE AT A DISCONNECT SWITCH, PANEL, SPD.
- CONDUCTOR FOR A TVSS SHALL BE TERMINATED IN DOUBLE BARREL LUGS ON LOAD SIDE OF A DISCONNECT SWITCH..
- WIRE SIZE OF SPD SHALL BE #2. AND LENGTH FROM THE SPD TO AN OVER CURRENT PROTECTION SHALL BE LESS THAN 12 INCHES.
- WIRING METHOD (SEE FAA-STD-1217f, SECTION 4.6 FOR DETAILS):
 - MINIMUM SIZE ELECTRICAL CIRCUIT SHALL BE #12 AWG THWN/THWN-2/XHHW 600 VAC.
 - EACH OVERCURRENT DEVICE SHALL HAVE ITS OWN NEUTRAL, AND EQUIPMENT GROUNDING CONDUCTOR.
 - CONDUCTOR #10 AWG OR SMALLER SHALL BE SOLID.
- CONDUIT (SEE FAA-STD-1217f, SECTION 4.6.3 FOR DETAILS):
 - MINIMUM SIZE OF AN ELECTRICAL CONDUIT SHALL BE 3/4.
 - EMT SHALL BE USED IN DRY LOCATION OR INDOORS. FITTING USED WITH EMT SHALL BE STANDARD COMPRESSION TYPE FITTINGS.
 - ZINC COATED RIGID STEEL CONDUIT SHALL BE UNDERGROUND SERVICE CIRCUIT OR OUTDOORS.
 - WHERE FLEX METAL CONDUIT IS USED, PROVIDE GROUNDING BUSHING AND BONDING #6 GROUND WIRE AT EACH END OF A FLEXIBLE METAL CONDUIT.
- COLOR CODE (SEE FAA-STD-1217f, SECTION 4.6.5.2.2 FOR DETAILS).
- EQUIPMENT NAME PLATE (SEE FAA-STD-1217f, SECTION 4.16 FOR REFERENCES):
 - PROVIDE NAME PLATE FOR PANEL, DISCONNECT SWITCH, ENCLOSURE, SPD. CONTRACTOR SHALL REQUEST RE/SSC TO PROVIDE DETAILS OF NAMEPLATE.
 - NAME PLATE SHALL BE 2"x4" PLASTIC WITH BLACK COLOR BACKGROUND AND MINIMUM 3/8" WHITE CHARACTERS.
- PROVIDE NEW POWER RACK, NEW ELECTRICAL EQUIPMENT PER DRAWINGS & PROJECT SPECIFICATIONS. FRANGIBLE MOUNTING ANCHOR BOLTS FOR THE POWER RACK IS NOT REQUIRED IF THE RACK IS LOCATED OUTSIDE OF THE RSA.
- LABEL NAME OF EACH CIRCUIT AT A DISCONNECT SWITCH, A PANEL, AN OUTLET, AND A SWITCH.

NEW EQUIPMENT SCHEDULE FOR POWER RACK

NO.	DESCRIPTION ELECTRICAL EQUIPMENT	LOCATION	MODEL # (SQUARE D OR EQUAL)	MATERIALS TO BE PROVIDED BY	REMARK
E1	KWH METER & METER BASE 1PH-3W	POWER RACK	SEE UTILITY POWER	CONTRACTOR	COORDINATE WITH UTILITY POWER FOR POWER SPECIFICATION, NEMA 4X STAINLESS STEEL
E2	100A 240V SERVICE DISCONNECT SWITCH	POWER RACK	H222DS NEMA 4X	CONTRACTOR	HEAVY DUTY NEMA 4X STAINLESS STEEL
E3	RAYVOSS SURGE ARRESTER	POWER RACK	120-2S-M1-06-A	CONTRACTOR	CONNECT IN SERIES
E4	7.5 KVA 1-PHASE STEP UP TRANSFORMER	POWER RACK	PRI = 240V SEC = 480V 1PHASE	CONTRACTOR	STAINLESS STEEL ENCLOSURE TRANSFORMER
E5	100A 600V 3P DISCONNECT SWITCH	POWER RACK	H363DS	CONTRACTOR	HEAVY DUTY NEMA 4X STAINLESS STEEL
E6	100A 600V 3P DISCONNECT SWITCH	RVR RO RACK	H363DS	PHASE 2	HEAVY DUTY NEMA 4X STAINLESS STEEL
E7	7.5 KVA 1-PH STEP DOWN TRANSFORMER	RVR RO RACK	240V - 480V 1PHASE	PHASE 2	STAINLESS STEEL ENCLOSURE TRANSFORMER WITH MULTI TAPS CHANGER
E8	100A 240V 1PH-3W PANEL	RVR RO RACK	NQ PANEL	PHASE 2	ENCLOSURE = NEMA 4X STAINLESS STEEL, CIRCUIT BREAKERS QOB, BUS BARS = COPPER
E9	LPC SURGE ARRESTER	RVR RO RACK	LPC 20206-7	PHASE 2	STAINLESS STEEL NEMA 4X

NEW ELECTRICAL DUCT SCHEDULE

	DESCRIPTION	FROM	TO	TO BE PROVIDED BY	REMARK
P1	240V POWER FEEDER 1 PH - 3 WIRE	TRANSFORMER	KWH METER	CONTRACTOR	INSTALL NEW THWN-2/XHHW CONDUCTORS IN NEW 2" GRMC CONDUITS
P2	240V POWER FEEDER 1 PH - 3 WIRE	KWH METER	LINE SIDE DISC SW 100A 600V	CONTRACTOR	INSTALL NEW THWN-2/XHHW CONDUCTORS IN NEW 1-1/4" GRMC CONDUITS
P3	480V POWER FEEDER 1 PH - 2 WIRE	LOAD SIDE SW 100A 600V	LINE SIDE DISC SW 100A 600V	CONTRACTOR	INSTALL NEW THWN-2/XHHW CONDUCTORS IN NEW 2" HDPE OR GRMC CONDUIT, AS SPECIFIED
P4	480V POWER FEEDER 1 PH - 2 WIRE	LOAD SIDE SW 100A 600V	PRIMARY SIDE 7.5 KVA TRANSFORMER	PHASE 2	INSTALL NEW THWN-2/XHHW CONDUCTORS IN NEW 1" GRMC CONDUITS
P5	240V POWER FEEDER 1 PH - 3 WIRE	SEC 7.5 KVA TRANSFORMER	LINE SIDE 100A 240V PANEL	PHASE 2	INSTALL NEW THWN-2/XHHW CONDUCTORS IN NEW 1" GRMC CONDUITS
P6	120V RVR BRANCH CIRCUIT	PANEL 100A 240V	VS-SIE ENCLOSURE	PHASE 2	INSTALL NEW THWN-2/XHHW CONDUCTORS IN NEW 3/4" GRMC CONDUITS
P7	120V BRANCH CIRCUITS	PANEL 100A 240V	OBSTRUCTION LIGHT & GFI OUTLET	PHASE 2	INSTALL NEW THWN-2/XHHW CONDUCTORS IN NEW 3/4" GRMC CONDUITS

ABBREVIATIONS: RVR: RUNWAY VISUAL RANGE; U/G: UNDERGROUND; RECPT: RECEPTACLE; RSA: RUNWAY SAFETY AREA; OBS LIGHT: OBSTRUCTION LIGHT; DISC SW: DISCONNECT SWITCH; DIST: DISTRIBUTION

NEW PANEL RVR RO SCHEDULE

MANUFACTURER SQUARE D		MODEL NUMBER NQ PANEL NEMA 4X 15 CKTS		
CIRCUIT BREAKER TYPE QOB		SERIES		
PHASE: 1 PHASE		NUMBER OF WIRES: 3 WIRE		
MAIN BREAKER AMPS: 40A 10 KA (AIC)		VOLTS 120/240V		
		AMPS 100A		
		SURFACE MOUNT ENCLOSURE		
SERVICE	AMPS	A B	AMPS	SERVICE
VS SIE	25A	1 2	15A	OBSTRUCTION LIGHTS
GFI OUTLETS	20A	3 4	20A	LPC-11755
SPARE	20A	5 6		
SPARE	20A	7 8	30A	SPARE
SPARE	15A	9 10		
SPACE		11 12	15A	SPARE
SPACE		13 14		
		15		
MAIN BREAKER	40A			

COLOR CODE (WIRING):
L1 (HOT): BLACK; L2 (HOT): RED
NEUTRAL: WHITE;
EQUIPMENT GROUNDING: GREEN

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DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION ATO - TECHNICAL OPERATIONS WESTERN SERVICE AREA					
RWY 7 ROLLOUT RVR PHASE I ONE-LINE DIAGRAM					
BARROW WILEY POST/WILL ROGERS AIRPORT ALASKA					
REVIEWED BY	SUBMITTED BY		APPROVED BY		
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	DESIGNED	ISSUED BY	DATE 3/20/2012	JCN	AL9700269
	DRAWN	ENGINEERING SERVICES	DRAWING NO		
	CHECKED	NAVAIDS	BRW-D-RVR-E002		REV